Ned K. Johnson Young Investigator Award, 2009

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NED K. JOHNSON YOUNG INVESTIGATOR AWARD, 2009

Renée Duckworth

The Ned K. Johnson Young Investigator Award honors a lifelong supporter and former president of the AOU. The award, first presented in 2005, was created to recognize outstanding and promising ornithological research made by persons early in their careers, with the hope and expectation that such individuals will provide future leadership in ornithology within and beyond North America. The AOU is proud and confident in its selection of Renée Duckworth as the 2009 recipient of this award.

Duckworth studies the role of behavioral variation in driving ecological and evolutionary processes. Her work is unusual in that it integrates physiological and evolutionary ecology, quantitative genetics, and phylogenetic comparison to understand an understudied but important evolutionary process: range expansion. Duckworth received her Ph.D. from Duke University, where she studied the role of behavioral variation as a determinant of species distributions through a series of field experiments and surveys of selection on natural variation among populations of two songbird species. This work, published in *Proceedings of the National Academy of Sciences* and several other prestigious journals, illuminated the roles of aggression and dispersal and their evolution in the reciprocal range shifts of Western and Mountain bluebirds. Duckworth's research fills a vacuum in evolutionary theory: What prevents populations from occupying larger areas than they do? The novelty of her approach is that she appreciates that no one level of biological organization is sufficient to explain a complex evolutionary process and uses diverse techniques to tease apart those interacting levels of organization. Her research has improved our understanding of phenotypic integration, another emerging but underexplored area in vertebrates, and of the influence of behavioral variation as a driver of species diversification.

After completing her graduate work, Duckworth was awarded an International Research Postdoctoral Fellowship by the National Science Foundation (NSF) to study at the Institute of Evolutionary Biology at Edinburgh University in Scotland, where she learned pedigree-based statistical models as a tool for investigating the genetic basis of variation in dispersal and aggressive behavior in

Renée Duckworth at Edinburgh University, January 2007.
(Photograph by Darren Obbard.)

bluebirds. This work resulted in a paper in *Evolution* that provided the first empirical documentation of genetic integration of dispersal and aggressive behavior in a wild population of birds.

In her current work as a G.G. Simpson Fellow in Evolution at the University of Arizona, Duckworth is conducting a large-scale ecological experiment to understand the roles of conservation programs and climate change in range changes of Western and Mountain bluebirds. This work has been recognized by the American Society of Naturalists, which awarded Duckworth its 2009 Young Investigator Award. Duckworth has already placed a priority on mentoring the next generation of ornithologists. She is currently the principal advisor for two undergraduate honors theses and one graduate student, and during her previous work she mentored nine other undergraduates, eight graduate students, and several high school students.

In spring 2010, Duckworth will start as an assistant professor in the Department of Ecology and Evolutionary Biology at the University of Arizona, where she will continue to investigate the evolutionary mechanisms that underlie range expansion in birds, specifically focusing on the role of maternal effects on offspring dispersal strategies. Her work will be supported by a recently awarded NSF grant. To receive a large federal grant so early in her career underscores the novelty and rigor of her research. The AOU is proud to give its 2009 Ned K. Johnson Young Investigator Award to Renée Duckworth, with confidence that her future research will lead to further integrative discoveries and that her teaching will continue to inspire.

Award criteria.—The Ned K. Johnson Young Investigator Award recognizes outstanding and promising work by a researcher early in her or his career in any field of ornithology. Candidates excel in research and show distinct promise for leadership in ornithology within and beyond North America. They must have received their doctorate within 5 years of being nominated, must not have received the award previously, and must be a member of the AOU at the time of nomination. The award, presented for the first time in 2005, consists of a framed certificate and an honorarium provided through a gift to the endowment of the AOU honoring Ned K. Johnson, a lifelong supporter and former president (1996–1998) of the AOU.